FACT SHEET FOR NPDES PERMIT WA0039560
JM MARTINAC SHIPBUILDING CORPORATION

TABLE OF CONTENTS

INTRODUCTION

The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System of permits (NPDES permits), which is administered by the Environmental Protection Agency (EPA). The EPA has authorized the State of Washington to administer the NPDES permit program. Chapter 90.48 Revised Code of Washington (RCW) defines the Department of Ecology's (the Department) authority and obligations in administering the wastewater discharge permit program.

The regulations adopted by the State include procedures for issuing permits (Chapter 173-220 Washington Administrative Code [WAC]), water quality criteria for surface and ground waters (Chapters 173-201A and 200 WAC), and sediment management standards (Chapter 173-204 WAC). These regulations require that a permit be issued before discharge of wastewater to waters of the state is allowed. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the permit. One of the requirements (WAC 173-220-060) for issuing a permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet. Public notice of the availability of the draft permit is required at least thirty days before the permit is issued (WAC 173-220-050). The fact sheet and draft permit are available for review (see Appendix A--Public Involvement of the fact sheet for more detail on the Public Notice procedures).

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in this review have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Comments and the resultant changes to the permit will be summarized in Appendix D--Response to Comments.

GENERAL INFORMATION	
Applicant	JM Martinac Shipbuilding Corporation
Facility Address	401 East 15th Street Tacoma, WA 98421
Type of Facility:	Ship Construction and Repair
SIC Code	3731
Discharge Location	**Incidental Discharges from In-Water Vessel Maintenance, and Marine Launchways 1 and 2**: Thea Foss Waterway (Inner Commencement Bay) **Treated Stormwater**: Land Application **Approximate center of land application** Latitude: 47° 15' 00" N Longitude: 122° 25' 27" W
Water Body ID Number	1224026474620

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

HISTORY

JM Martinac Shipbuilding Corporation (Martinac) has been constructing vessels at its present location on the east bank of the Thea Foss Waterway since 1924. Predominant activities are the design and new construction of fishing vessels and tugs and the repair and retrofitting of existing vessels. Activities include welding, cutting, machining, sandblasting, painting, carpentry, pipefitting, and electrical wiring. The types of vessels that are commonly constructed at the facility are: small fishing boats, superclass tuna seiners, research boats, tug boats, patrol boats, crabbers, and trawlers. Occasionally, the facility will provide some moderate types of vessel maintenance services. Since the facility does not have a dry dock or a marine railway that can haul vessels out of the water, any type of maintenance is limited to in-water vessel maintenance.

The Martinac facility covers approximately 6.2 acres and is located in the City of Tacoma (see Figure 1 for vicinity map). Their facilities include: two covered marine launching ways which can each handle vessels up to 250 feet in length and 44 feet in width. Other areas of the facility include plate and fabrication areas, marine construction buildings, outfitting docks, grit blasting and paint spray areas, lumber and metal storage areas and warehouses. Martinac does not have a dry dock or graving dock. Figure 2 provides a site plan of the facility.

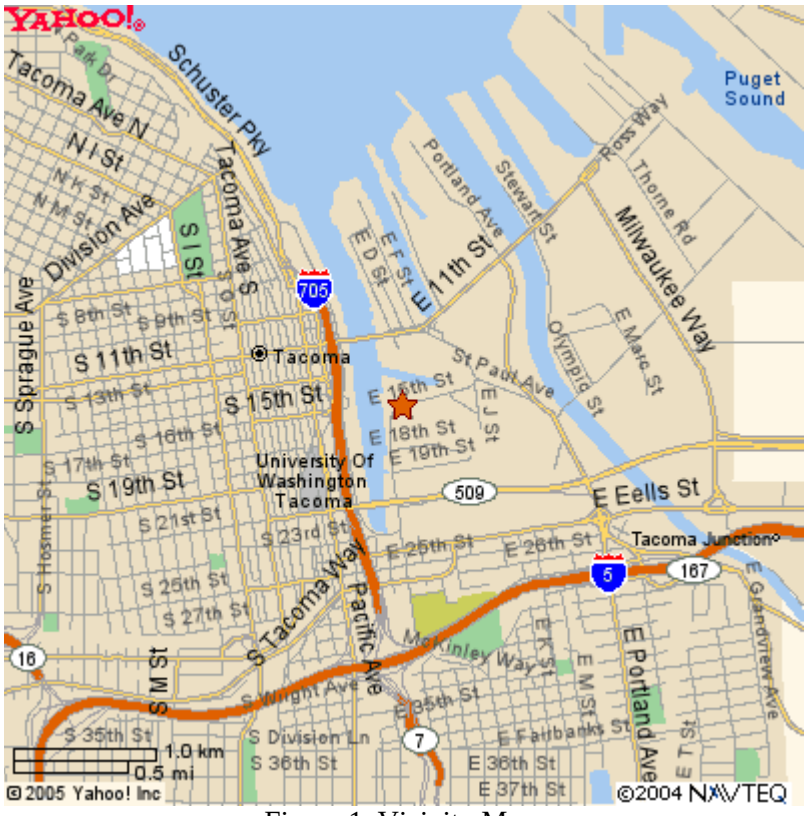

Figure 1. Vicinity Map.

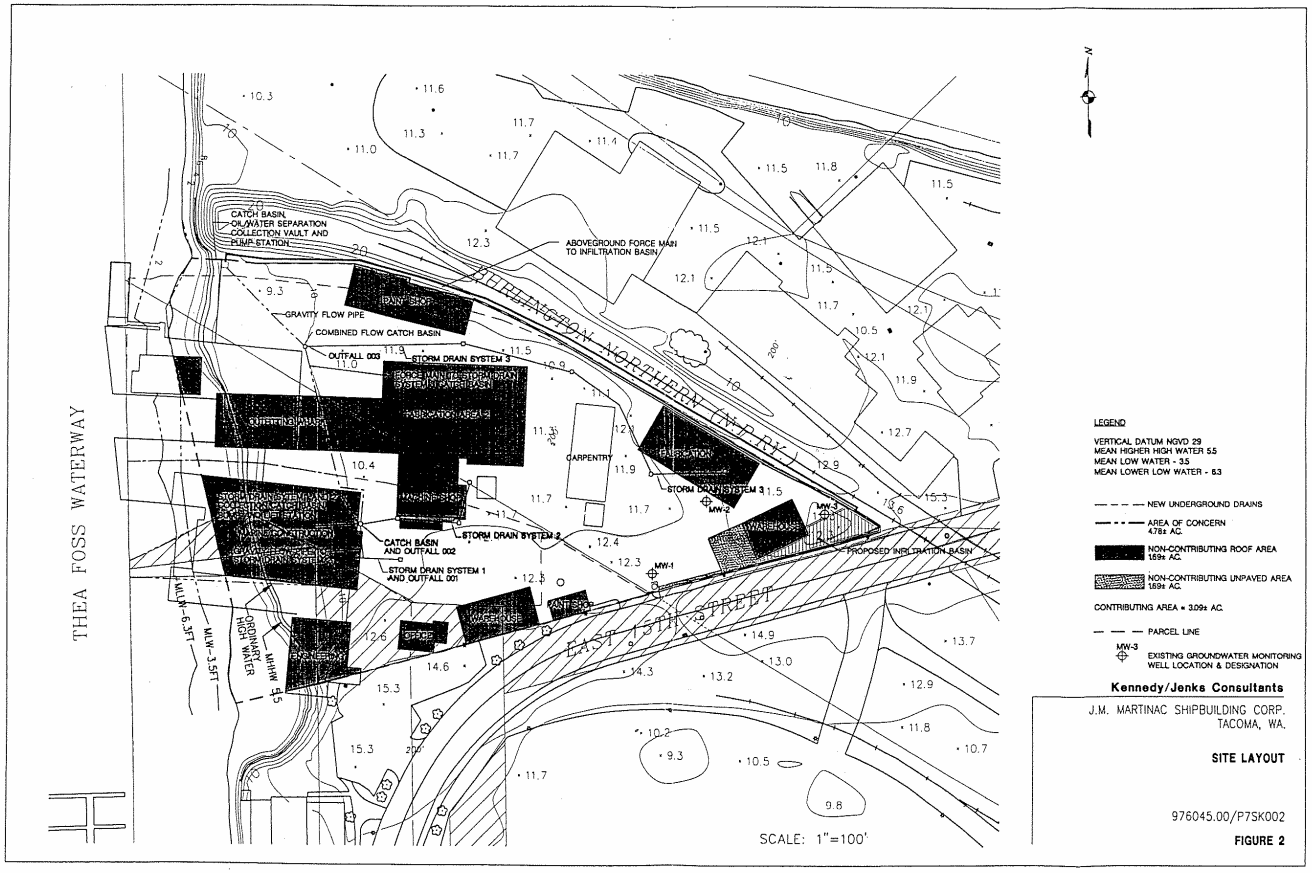

FIGURE 2. SITE PLAN

INDUSTRIAL PROCESS

Vessels are constructed from steel plates and/or fabricated parts that are either "black" or "wheel abraided." Black steel is coated with a scale residue that is produced as part of the manufacturing process. This scale must be removed in order to be able to properly prepare the steel surface for coating applications. Approximately 85 percent of the steel used at the facility is wheel abraded and already primed from the manufacturer.

With the exception of steam cleaning, there are no industrial processes at Martinac that generate wastewater. The shipyard infrequently disposes of bilge, ballast, or gray waters from vessels. Any such water is stored in a 500-gallon tank prior to being disposed of by a subcontractor. There are no industrial processes which are conducted on-site that generate wastewater.

Two pump stations convey the stormwater through the stormwater system. Pump station 1 serves the southern portions of the facility. Pump station 2 pumps the treated stormwater effluent from the oil/water separator to the infiltration basin which is located on the eastern edge of the site.

The oil/water separator removes floating oil and oil droplets. The oil/water separator consists of a coalescing media pack installed in an approximate 13-foot by 7-foot vault. The Permittee reports that sediment and some suspended solids is also removed by the oil/water separator.

After the oil/water separator, the stormwater is then pumped to the infiltration basin for further treatment and ultimate disposal (into ground). The infiltration basin is approximately 2,000 square feet and approximately 4-feet deep.

The system is designed to "convey at a minimum the peak flow 2-year, 24-hour storm event and to provide sufficient infiltration area for the 25-year, 24-hour storm" (1998 O&M Manual, Kennedy/Jenks). In the event of an excessive storm event, excess stormwater will be distributed to the rip-rap area at the northwestern corner of the facility. In these cases, a bypass occurs and allows the excess stormwater to flow overland directly into the Thea Foss Waterway.

Sanitary wastewater from the facility is discharged to the City of Tacoma sanitary sewer system.

Solid waste generated at the site includes sandblast grit. This material is currently transported off-site for recycling at a cement plant. Scrap metal is recycled off-site. Some solvents are re-distilled on-site; other solvents are stored in drums until transported off-site by a solvent recycler. Waste paints are allowed to dry in buckets and are then disposed of as municipal waste.

GROUND WATER

HYDROGEOLOGY

Annually the discharge rate is estimated to average about 8800 gallons per day using the average annual rainfall at Seattle-Tacoma Airport of 38.27 inches and a paved area of 134,600 square feet. The infiltration rate of the underlying soil was tested to be 10.7 inches/hour (21 feet/day). The uppermost aquifer consists of mostly medium sand with some shell fragments. The upper sand aquifer in this area typically consists of dredge spoils. The aquifer is unconfined and the water table occurs at a depth of about seven feet. The aquifer thickness averages 4 to 5 feet and shows slight to moderate tidal influence. Based on limited data the average groundwater flow direction is generally west-northwest toward Thea

Foss Waterway which is about 600 feet from the basin. The aquifer is underlain by a silty clay and sandy silt layer.

GROUNDWATER MONITORING NETWORK

The monitoring network consists of three monitoring wells designated MW-1, MW-2 and MW-3. All wells are screened in the shallow sand aquifer. MW-3 is the upgradient well and MW-1 and MW-2 appear to be downgradient of the basin at least some of the time. Continuous water-level monitoring was conducted in the three wells over three days in May 1997. One well (MW2) showed greater tidal influence (0.24 feet) over the tidal cycle compared to the other two wells. The cause of this difference is not known but the net effect is that the groundwater flow direction varies substantially over a tidal cycle. During low tide the flow is toward the northwest and during high tide the flow is toward the southwest.

GROUNDWATER QUALITY RESULTS

Limited groundwater quality data has been reported for the monitoring network by JM Martinac. The results are shown in Table 1. There is some concern about the representativeness of these sample results. The concentrations of copper and zinc seem to be lower than expected for groundwater quality in close proximity to the Thea Foss Waterway. Groundwater samples are anticipated to be collected by the Department sometime in the future to assess the representativeness of the groundwater data. The values shown are average values of the values reported during the years 2000-2004.

Table 1. Groundwater Characterization in the Vicinity of the Infiltration Basin.

	Parameter					
Monitoring Well	Dissolved Copper (ppb)	Total Copper (ppb)	Dissolved Zinc (ppb)	Total Zinc (ppb)	Oil & Grease (ppm)	TSS (ppm)
GW1	1	1	5	10	2	45
GW2	1	3	5	11	2	16
GW3	2	3	5	8	2	9

THEA FOSS AND WHEELER-OSGOOD WATERWAYS SEDIMENT CLEANUP PROGRAM

The Thea Foss and Wheeler-Osgood Waterways have been identified to be a part of the Commencement Bay Nearshore/Tideflats Superfund Site. Contaminated sediments in Thea Foss and Wheeler-Osgood Waterways have high concentrations of copper, cadmium, lead, mercury, nickel, and zinc, high and low PAHs, phthalates, and PCBs.

The following are excerpts from EPA Region 10's Commencement Bay Nearshore/Tideflats Superfund Site historical summary which is posted on the internet at: http://yosemite.epa.gov/R10/CLEANUP.NSF/88b0452f26c113d88825685f006ab43f/e8d62480494ad483882564f80082a1c0!OpenDocument#hist.

In September 2002, EPA issued a Unilateral Administrative Order for the City of Tacoma to cleanup 6 areas primarily by capping (Thea's Park, Totem Marine Services, the banks of the Wheeler-Osgood Waterway, Johnny's Seafood, shipways at Martinac, and pulling piles at the St. Paul/Middle Waterway peninsula). In May 2003, the City and three PRPs, known as the "Utilities" (comprised of Puget Sound Energy, Pacificorp, and Advance Ross Sub-Company) signed two separate Consent Decrees to cleanup

their respective portions of the Waterways. The Utilities' work area is the head of the Thea Foss to approximately station 70+10. The City's cleanup area is from station 70+10 to the mouth of the Thea Foss and the Wheeler-Osgood Waterways.

The Utilities completed its cleanup of approximately 9 acres in February 2004, including dredging 3,500 cubic yards and disposing of it in an upland landfill; capping the remainder of the Waterway and the surrounding banks; creating a scour protection berm in front of the City's twin 96-inch stormwater outfall pipes; installing a sheetpile wall between the City's and Utilities' work areas; and installing an impermeable cap over an area known as the SR-509 seep.

The City began work in November 2003 by constructing the St. Paul confined aquatic disposal (CAD) site at the head of the St. Paul Waterway. The area in front of the Tacoma Glass Museum and Alber's Mill were dredged and capped. In fall 2004, the City began construction of the temporary marinas in this area that it will use while conducting cleanup at the four existing marinas in the Waterway. The City completed dredging along most of the banks of the Thea Foss Waterway, and will begin hydraulically dredging the Waterway channel in fall of 2005.

At the present time, there is some recontamination of the northeast corner of the Utilities' capped area. It appears to be from contaminated material deposited during the City's dredging and construction activities. Additional data from the Utilities' and City's work areas have been taken and analysis is being conducted. Results from core samples indicate that this contamination is not coming up through the cap, but rather is material deposited on top of the cap. Additional samples will be taken in this area in June 2005 and an Action Plan (if necessary) will be developed based on the results.

All of the cleanup actions are expected to be completed by January 2006. Long-term monitoring of natural recovery, capped areas and mitigation areas will continue for at least 10 years after the active cleanup is completed.

A Commencement Bay Nearshore/Tideflats Five-Year Review was completed on December 29, 2004, regarding all the Commencement Bay Waterways and the Asarco Area sites.

This permit requires the Permittee provide information documenting that their industrial activity will not be a source of re-contamination of the sediments, or be a cause of new contamination for the following parameters: copper, cadmium, lead, mercury, nickel, silver, zinc, high and low PAHs, phthalates, PCBs, and tributyl-tin (TBT). Refer to Special Condition S9 of the permit for more information.

PERMIT STATUS

The previous permit for this facility was a State Waste Discharge Permit (No. ST6180). The permit issued on March 8, 2000. The previous permit placed effluent limitations on oil and grease, total copper, total zinc and pH in Outfall 001 (stormwater to the infiltration basin).

In July 2004, the Department terminated the facility's previous State Waste Discharge Permit (No. ST6180). The termination occurred because the facility did not submit a permit application and had also sent correspondence to the Department in February 2002 that requested to inactivate the permit due to a lull in finding new contracts/work. When new contracts/work were obtained, the correspondence stated that the facility would request to fully reinstate their permit and abide by its conditions.

An application for permit renewal was submitted to the Department on April 13, 2005, and accepted by the Department on April 26, 2005. A determination has been made to convert the previous State Waste Discharge Permit back into a National Pollution Discharge Elimination System (NPDES) Permit. The

rationale for this conversion was to be able to include coverage of incidental discharges from the marine railways and in-water vessel maintenance.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The facility last received an inspection on March 14, 2005.

The facility has incurred two penalties recently: one in July 2003 and another in March 2005. The July 2003 penalty was for failing to monitor stormwater discharges and failure to submit monitoring data. The March 2005 penalty was for operating without an active discharge permit for $6,061.

The facility has had chronic problems meeting the low pH limit of 6.5 (exceeded the limit for stormwater for 22 months and was not reported for 16 months during the last permit cycle) and, to a less frequent extent, problems meeting the copper (exceeded the limit for stormwater for 5 months and was not reported for 15 months during the last permit cycle) and zinc (exceeded the limit for stormwater for 4 months and was not reported for 15 months during the last permit cycle). Oil and grease was not reported for 16 months of the last permit cycle.

WASTEWATER CHARACTERIZATION

The proposed wastewater discharge is characterized for the regulated parameters as shown in Table 2. The values shown are average values of the average monthly values reported from August 2000 through February 2005.

Table 2. Wastewater Characterization in Outfall #001 (Infiltration Basin Influent) and Outfall #003 (Marine Launchway 2).

Outfalls	Parameter				
Wastestream	Total Copper (ppb)	Total Zinc (ppb)	Oil & Grease (ppm)	pH (s.u.)	TSS (ppm)
Outfall #001	73	707	3	6.11	--
Outfall #003 (Marine Launchway 2)	90	106	2	--	7

SEPA COMPLIANCE

There are currently no known SEPA compliance issues concerning this facility's discharge to ground or incidental discharges which may enter the Thea Foss Waterway.

PROPOSED PERMIT LIMITATIONS

Federal and State regulations require that effluent limitations set forth in a NPDES permit must be either technology- or water quality-based. Technology-based limitations are based upon the treatment methods available to treat specific pollutants. Technology-based limitations are set by regulation or developed on a case-by-case basis (40 CFR 125.3, and Chapter 173-220 WAC). Water quality-based limitations are based upon compliance with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC), Sediment Quality Standards (Chapter 173-204 WAC) or the National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992). The more

stringent of these two limits must be chosen for each of the parameters of concern. Each of these types of limits is described in more detail below.

The limits in this permit are based in part on information received in the application. The effluent constituents in the application were evaluated on a technology- and water quality-basis. The limits necessary to meet the rules and regulations of the State of Washington were determined and included in this permit. The Department does not develop effluent limits for all pollutants that may be reported on the application as present in the effluent**.** Some pollutants are not treatable at the concentrations reported, are not controllable at the source, are not listed in regulation, and do not have a reasonable potential to cause a water quality violation**.** Effluent limits are not always developed for pollutants that may be in the discharge but not reported as present in the application. In those circumstances the permit does not authorize discharge of the non-reported pollutants. Effluent discharge conditions may change from the conditions reported in the permit application. If significant changes occur in any constituent, as described in 40 CFR 122.42(a), the Permittee is required to notify the Department. The Permittee may be in violation of the permit until the permit is modified to reflect additional discharge of pollutants.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

The oil and grease, copper, and zinc limitations for Outfall #001 is based upon the procedures for determining technology-based limits. The following provides a brief description of how these limitations were defined.

Oil and Grease: The oil and grease limitation of 10 mg/L is established as the concentration commonly achieved by oil/water separation technologies. This limit has been commonly accepted as an indicator that AKART for oil and grease removal is being achieved. The oil and grease limitation for Outfall #001 was established in the previous permit and has been retained.

Copper: The previous permit established a performance-based copper limit of 90 µg/L for Outfall #001. The data collected from the previous permit cycle was evaluated and a new performance-based limit was calculated based on the recent data. A limit of 452 µg/L was calculated. This higher value was due to several exceedances that have occurred. Since the previous limit of 90 µg/L is more conservative, the previous limit has been retained and is used in this permit.

Zinc: The previous permit established a performance-based copper limit of 1,330 µg/L for Outfall #001. The data collected from the previous permit cycle was evaluated and a new performance-based limit was calculated based on the recent data. A limit of 1,742 µg/L was calculated. This higher value was due to several exceedances that have occurred. Since the previous limit of 1,330 µg/L is more conservative, the previous limit has been retained and is used in this permit.

SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's surface waters, WAC 173-201A-060 states that waste discharge permits shall be conditioned such that the discharge will meet established Surface Water Quality Standards. The Washington State Surface Water Quality Standards (Chapter 173-201A WAC) is a state regulation designed to protect the beneficial uses of the surface waters of the state. Surface water quality-based effluent limitations may be based on an individual waste load allocation (WLA) or on a WLA developed during a basin wide total maximum daily loading study (TMDL).

NUMERICAL CRITERIA FOR THE PROTECTION OF AQUATIC LIFE

"Numerical" water quality criteria are numerical values set forth in the State of Washington's Water Quality Standards for Surface Waters (Chapter 173-201A WAC). They specify the levels of pollutants allowed in a receiving water while remaining protective of aquatic life. Numerical criteria set forth in the Water Quality Standards are used along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limitations, they must be used in a permit.

NUMERICAL CRITERIA FOR THE PROTECTION OF HUMAN HEALTH

The U.S. EPA has promulgated 91 numeric water quality criteria for the protection of human health that are applicable to Washington State (EPA 1992). These criteria are designed to protect humans from cancer and other disease and are primarily applicable to fish and shellfish consumption and drinking water from surface waters.

NARRATIVE CRITERIA

In addition to numerical criteria, "narrative" water quality criteria (WAC 173-201A-030) limit toxic, radioactive, or deleterious material concentrations below those which have the potential to adversely affect characteristic water uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health. Narrative criteria protect the specific beneficial uses of all fresh (WAC 173-201A-130) and marine (WAC 173-201A-140) waters in the State of Washington.

ANTIDEGRADATION

The state of Washington's Antidegradation Policy requires that discharges into a receiving water shall not further degrade the existing water quality of the water body. In cases where the natural conditions of a receiving water are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. Similarly, when the natural conditions of a receiving water are of higher quality than the criteria assigned, the natural conditions shall be protected. More information on the State Antidegradation Policy can be obtained by referring to WAC 173-201A-070.

The Department has reviewed existing records and is unable to determine if ambient water quality is either higher or lower than the designated classification criteria given in Chapter 173-201A WAC; therefore, the Department will use the designated classification criteria for this water body in the proposed permit. The discharges authorized by this proposed permit should not cause a loss of beneficial uses.

CRITICAL CONDITIONS

Surface water quality-based limits are derived for the waterbody's critical condition, which represents the receiving water and waste discharge condition with the highest potential for adverse impact on the aquatic biota, human health, and existing or characteristic water body uses.

MIXING ZONES

The Water Quality Standards allow the Department to authorize mixing zones around a point of discharge in establishing surface water quality-based effluent limits. Both "acute" and "chronic" mixing zones may be authorized for pollutants that can have a toxic effect on the aquatic environment near the point of discharge. The concentration of pollutants at the boundary of these mixing zones may not exceed the

numerical criteria for that type of zone. Mixing zones can only be authorized for discharges that are receiving all known, available, and reasonable methods of prevention, control and treatment (AKART) and in accordance with other mixing zone requirements of WAC 173-201A-100.

The National Toxics Rule (EPA, 1992) allows the chronic mixing zone to be used to meet human health criteria.

DESCRIPTION OF THE RECEIVING WATER

The facility discharges to the Thea Foss Waterway which is designated as a Class C receiving water in the vicinity of the outfall. Characteristic uses include the following:

> water supply (industrial); stock watering; fish migration; secondary contact recreation; sport fishing; boating and aesthetic enjoyment; commerce and navigation. Water quality of this class shall meet or exceed the requirements of selected and essential uses.

SURFACE WATER QUALITY CRITERIA

Applicable criteria are defined in Chapter 173-201A WAC for aquatic biota. In addition, U.S. EPA has promulgated human health criteria for toxic pollutants (EPA 1992). Criteria for this discharge are summarized in Table 3 (below).

Table 3. Summary of Water Quality Criteria.

Fecal Coliforms	200 organisms/100 mL maximum geometric mean
Dissolved Oxygen	4 mg/L minimum
Temperature	22 degrees Celsius maximum or incremental increases above background
pH	6.5 to 9.0 standard units
Turbidity	less than 10 NTU above background
Toxics	No toxics in toxic amounts (see Appendix C for numeric criteria for toxics of concern for this discharge)

CONSIDERATION OF SURFACE WATER QUALITY-BASED LIMITS FOR NUMERIC CRITERIA

No mixing zones have been authorized for the incidental discharges for this facility. As such, the critical condition is assumed to occur when there is an acute and chronic dilution factor of 1.00.

The incidental discharges that may occur due to in-water vessel maintenance is minimized through the required adherence and implementation of the best management practices required by the permit. It is anticipated that the nature of the material most likely to be discharged will be either floating type of debris, or material that will sink to the bottom of the Waterway. Potential impacts to sediments will be evaluated as part of the requirements of this permit and coordination with the previous Thea Foss Waterway Superfund Cleanup will be part of the sediment quality evaluation's scope of work.

Toxic Pollutants--Federal regulations (40 CFR 122.44) require NPDES permits to contain effluent limits for toxic chemicals in an effluent whenever there is a reasonable potential for those chemicals to exceed the surface water quality criteria. This process occurs concurrently with the derivation of technology-based effluent limits. Facilities with technology-based effluent limits defined in regulation are not

exempted from meeting the Water Quality Standards for Surface Waters or from having surface water quality-based effluent limits.

WHOLE EFFLUENT TOXICITY

The Water Quality Standards for Surface Waters require that the effluent not cause toxic effects in the receiving waters. Many toxic pollutants cannot be detected by commonly available detection methods. However, toxicity can be measured directly by exposing living organisms to the wastewater in laboratory tests and measuring the response of the organisms. Toxicity tests measure the aggregate toxicity of the whole effluent, and therefore this approach is called whole effluent toxicity (WET) testing.
Toxicity caused by unidentified pollutants is not expected in the effluent from this discharge as determined by the screening criteria given in Chapter 173-205 WAC. Therefore, no whole effluent toxicity testing is required in this permit. The Department may require effluent toxicity testing in the future if it receives information that toxicity may be present in this effluent.

HUMAN HEALTH

Washington's water quality standards now include 91 numeric health-based criteria that must be considered in NPDES permits. These criteria were promulgated for the state by the U.S. EPA in its National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992).

The Department has determined that the applicant's discharge does not contain chemicals of concern based on existing data or knowledge. The discharge will be re-evaluated for impacts to human health at the next permit re-issuance.

SEDIMENT QUALITY

The Department has promulgated aquatic sediment standards (Chapter 173-204 WAC) to protect aquatic biota and human health. These standards state that the Department may require Permittees to evaluate the potential for the discharge to cause a violation of applicable standards (WAC 173-204-400).

The Department has determined that this discharge has the potential to cause a violation of the sediment quality standards because of the nature of the facility's industrial operation and studies conducted internationally on shipyards' impact on sediment quality. The sediment has also undergone a Superfund Cleanup effort and the sediment quality goals as a result of this Cleanup should be upheld. A condition (Special Condition S9) has been placed in the proposed permit which requires the Permittee to demonstrate that there is not any re-contamination, or any new contamination of toxics in the sediments caused by J M Martinac Shipbuilding Corporation.

BEST MANAGEMENT PRACTICES (BMPS)

This permit requires the Permittee to adopt and implement BMPs for activities concerning in-water vessel maintenance and any work performed in/and around Marine Launchways 1 and 2. The BMPs will be managed and contained in a Stormwater Pollution Prevention Plan (SWPPP) in accordance with the new Stormwater Manual for Western Washington and recent advances in regulating stormwater discharges. At a minimum, all of the BMPs provided in Special Condition S11 of this permit are required to be adopted by the facility and included in the SWPPP. The Permittee is responsible for properly informing their subcontractors and employees of all BMPs to be implemented.

GROUND WATER QUALITY LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's ground waters including the protection of human health, WAC 173-200-100 states that waste discharge permits shall be conditioned in such a manner as to authorize only activities that will not cause violations of the Ground Water Quality Standards. Drinking water is the beneficial use generally requiring the highest quality of ground water. Providing protection to the level of drinking water standards will protect a great variety of existing and future beneficial uses.

Applicable ground water criteria as defined in Chapter 173-200 WAC and in RCW 90.48.520 for this discharge include the following:

Table 4: Ground Water Quality Criteria

pH	6.5 to 8.5 standard units
Total Dissolved Solids	500 mg/L
Total Copper	1,000 µg/L
Total Lead	50 µg/L
Total Zinc	5,000 µg/L

The Department has reviewed existing records and is unable to determine if background ground water quality is either higher or lower than the criteria given in Chapter 173-200 WAC; therefore, the Department will use the criteria expressed in the regulation as the enforcement limitations in the proposed permit. The early warning values for ground water were set at one-half of the enforcement limitations for ground water. The discharges authorized by this proposed permit are not expected to interfere with beneficial uses. **The enforcement limitations and early warning values apply only to wells 1 and 2**.

The resultant effluent limits were as follows:

Table 5: Ground Water Quality-based Limitations.

Parameter	Limitation
Enforcement Limitations for Ground Water	
Total Copper Total Zinc	Maximum daily of 1,000 µg/L Maximum daily of 5,000 µg/L
Early Warning Values for Ground Water	
Total Copper	Maximum daily of 500 µg/L
Total Zinc	Maximum daily of 2,500 µg/L

Insufficient upgradient background data for pH, total dissolved solids and total lead were available to adequately determine the background ground water conditions. The Permittee is required in section S1.B of the proposed permit to collect ground water data quarterly instead of twice a year as required in the existing permit. This information will be reviewed regularly and may result in a permit modification or revised limits in the next permit renewal.

COMPARISON OF EXISTING LIMITS WITH THE PREVIOUS PERMIT LIMITS (ISSUED MARCH 8, 2000)

Table 6. Comparison of Previous and Existing Permit Limitations.

Previous Permit Limits	Existing Permit Limits
Treated Stormwater – Outfall 001	
Oil and Grease – average monthly limit of 10 mg/L	Oil and Grease – same as previous permit
Total Copper– average monthly limit of 90 µg/L	Total Copper – same as previous permit
Total Zinc– average monthly limit of 1,330 µg/L	Total Zinc – same as previous permit
pH (s.u.) – at all times within the range of 6.5 to 8.5	pH – same as previous permit
Groundwater Enforcement Limits	
Total Copper – no limits or warning values previously given	Total Copper – maximum daily limit of 1,000 µg/L and an early warning value of 500 µg/L
Total Zinc – no limits or warning values previously given	Total Zinc – maximum daily limit of 5,000 µg/L and an early warning value of 2,500 µg/L

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are specified to verify that the treatment process is functioning correctly, that ground water criteria are not violated, and that effluent limitations are being achieved (WAC 173-216-110).

Monitoring is required for the infiltration basin influent (Outfall 001) and for groundwater at the three designated groundwater monitoring well locations (MW1, MW2, and MW3).

WASTE WATER MONITORING

The monitoring schedule is detailed in the permit under Special Condition S2 for Outfall 001. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

GROUND WATER MONITORING

The monitoring of ground water at the site is required in accordance with the Ground Water Quality Standards, Chapter 173-200 WAC. The Department has determined that this discharge has a potential to pollute the ground water. Therefore, the Permittee is required to evaluate the impacts on ground water quality. Monitoring of the ground water at the site boundaries and within the site is an integral component of such an evaluation.

BEST MANAGEMENT PRACTICES MONITORING

Compliance monitoring required as part of this permit includes:

1. documenting that BMPs are being adhered to when working on ships pierside as per Special Condition S9.F, this documentation is to be maintained in a log book and applies to any in-water surface preparation operations of one hour or more in duration and any in-water coating or painting operation involving ½ gallon or more of paint or marine coating.

2. developing a Sediment Sampling and Analysis Plan as per Special Condition S9.A.

3. requiring the collection of sediment data in accordance with the Sediment Sampling and Analysis Plan and submit a report as required in Special Condition S9.B (if necessary).

4. keeping records of bi-annual Stormwater Pollution Prevention Plan evaluations as required in Special Conditions S10.C and S10.D.

LAB ACCREDITATION

With the exception of certain parameters the permit requires all monitoring data to be prepared by a laboratory registered or accredited under the provisions of Chapter 173-50 WAC, *Accreditation of Environmental Laboratories.*

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The conditions of S3. are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-220-210).

NON-ROUTINE AND UNANTICIPATED DISCHARGES

Occasionally, this facility may generate wastewater which is not characterized in their permit application because it is not a routine discharge and was not anticipated at the time of application. These typically are waters used to pressure test storage tanks or fire water systems or leaks from drinking water systems. These are typically clean waste waters but may be contaminated with pollutants. The permit contains an authorization for non-routine and unanticipated discharges. The permit requires a characterization of these waste waters for pollutants and examination of the opportunities for reuse. Depending on the nature and extent of pollutants in this wastewater and opportunities for reuse, the Department may authorize a direct discharge via the process wastewater outfall or through a stormwater outfall for clean water, require the wastewater to be placed through the facilities wastewater treatment process or require the water to be reused.

SPILL PLAN

The Department has determined that the Permittee stores a quantity of chemicals that have the potential to cause water pollution if accidentally released. The Department has the authority to require the Permittee to develop best management plans to prevent this accidental release under section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080.

The Permittee has developed a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The proposed permit requires the Permittee to update this plan and submit it to the Department.

SOLID WASTE PLAN

The Department has determined that the Permittee has a potential to cause pollution of the waters of the state from leachate of solid waste.

This proposed permit requires, under the authority of RCW 90.48.080, that the Permittee update the solid waste plan designed to prevent solid waste from causing pollution of the waters of the state. The plan must be submitted to the local permitting agency for approval, if necessary, and to the Department.

GENERAL CONDITIONS

General Conditions are based directly on state and federal law and regulations and have been standardized for all individual industrial NPDES permits issued by the Department.

PERMIT ISSUANCE PROCEDURES

PERMIT MODIFICATIONS

The Department may modify this permit to impose numerical limitations, if necessary to meet Water Quality Standards for Surface Waters, Sediment Quality Standards, or Water Quality Standards for Ground Waters, based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

The Department may also modify this permit as a result of new or amended state or federal regulations.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the State of Washington. The Department proposes that this permit expire on June 30, 2009. This is for a period of less than 5 years but conforms to the Department's goal of managing permits in each water quality management area on a 5 year cycle.

REFERENCES FOR TEXT AND APPENDICES

Environmental Protection Agency (EPA)

1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.

1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.

1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. USEPA Office of Water, Washington, D.C.

1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water. EPA/600/6-85/002a.

1983. Water Quality Standards Handbook. USEPA Office of Water, Washington, D.C.

Kennedy/Jenks Consultants.

2000. J.M. Martinac Shipbuilding Corporation Environmental Compliance Plan. K/J 976045.00. Updated September 2000.

1998. J.M. Martinac Shipbuilding Corporation Operation & Maintenance Manual – Facility Stormwater System. K/J 976045.00. December 1998

1997. J.M. Martinac Shipbuilding Corporation Environmental Compliance Plan. K/J 976045.00. August 1997.

1997. J.M. Martinac Shipbuilding Corporation Draft Engineering Report. K/J 976045.00. August 1997.

1997. J.M. Martinac Shipbuilding Corporation Preliminary Infiltration Assessment Results. Letter report to Garin Schrieve dated June 26, 1997.

1997. AKART Analysis – J.M. Martinac Shipbuilding Corporation. Letter report to Garin Schrieve data May 13, 1997.

Tsivoglou, E.C., and J.R. Wallace.

1972. Characterization of Stream Reaeration Capacity. EPA-R3-72-012. (Cited in EPA 1985 op.cit.)

Washington State Department of Ecology.

1993. Guidelines for Preparation of Engineering Reports for Industrial Wastewater Land Application Systems. Ecology Pub. No. 93-36.

1994. Permit Writer's Manual. Publication Number 92-109

1996. Implementation Guidance for the Ground Water Quality Standards. Ecology Pub. No. 96-02.

2004. Guidance Manual for Preparing/Updating a Stormwater Pollution Prevention Plan for Industrial Facilities. Ecology Pub. No. 04-10-030.

2005. Stormwater Management Manual for Western Washington. Ecology Pub. Nos. 05-10-029 through 05-10-033.

Laws and Regulations(http://www.ecy.wa.gov/laws-rules/index.html)

Permit and Wastewater Related Information
(http://www.ecy.wa.gov/programs/wq/wastewater/index.html)

Wright, R.M., and A.J. McDonnell.

1979. In-stream Deoxygenation Rate Prediction. Journal Environmental Engineering Division, ASCE. 105(EE2). (Cited in EPA 1985 op.cit.)

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to issue a permit to the applicant listed on page 1 of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public notice of application was published on August 4, 2005, and August 8, 2005, in Tacoma News Tribune to inform the public that an application had been submitted and to invite comment on the issuance of this permit.

The Department will publish a Public Notice of Draft (PNOD) on September 2, 2005 in *Tacoma News Tribune* to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Industrial Unit Permit Coordinator
Department of Ecology
Southwest Regional Office
P. O. Box 47775
Olympia, WA 98504-7775.

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the 30 day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least 30 days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing (WAC 173-220-100).

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within 30 days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, (360) 407-6365, or by writing to the address listed above.

This permit and fact sheet were written by John Diamant, P.E.

APPENDIX B--GLOSSARY

Acute Toxicity--The lethal effect of a compound on an organism that occurs in a short period of time, usually 48 to 96 hours.

AKART-- An acronym for "all known, available, and reasonable methods of treatment".

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Ammonia--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation --The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD_5--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD_5 is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass--The intentional diversion of waste streams from any portion of a treatment facility.

Chlorine--Chlorine is used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

Chronic Toxicity--The effect of a compound on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

Clean Water Act (CWA)--The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots).

Construction Activity--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring –Uninterrupted, unless otherwise noted in the permit.

Critical Condition--The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, thus, its ability to dilute effluent is reduced.

Dilution Factor--A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the percent effluent fraction e.g., a dilution factor of 10 means the effluent comprises 10 percent by volume and the receiving water 90 percent.

Engineering Report--A document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Fecal Coliform Bacteria--Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

Grab Sample--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Major Facility--A facility discharging to surface water with an EPA rating score of > 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Maximum Daily Discharge Limitation--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

Minor Facility--A facility discharging to surface water with an EPA rating score of < 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Mixing Zone--An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The area of the authorized mixing zone is specified in a facility's permit and follows procedures outlined in state regulations (Chapter 173-201A WAC).

National Pollutant Discharge Elimination System (NPDES)--The NPDES (Section 402 of the Clean Water Act) is the Federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the State of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both State and Federal laws.

pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7.0 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Quantitation Level (QL)-- A calculated value five times the MDL (method detection level).

Responsible Corporate Officer-- A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Upset--An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

APPENDIX C--TECHNICAL CALCULATIONS

TSD Calc 11							
Copper Performance-Based Limit Calculations (Outfall #001)							
PERFORMANCE-BASED EFFLUENT LIMITS							
USE EXCEL TO PERFORM THE LOGNORMAL TRANSFORMATION							
AND CALCULATE THE TRANSFORMED MEAN AND VARIANCE							
				LOGNORMAL TRANSFORMED MEAN =			3.5921
		'LOGNORMAL TRANSFORMED VARIANCE =					1.1747
NUMBER OF SAMPLES/MONTH FOR COMPLIANCE MONITORING =							1
	AUTOCORRELATION FACTOR(ne)(USE 0 IF UNKNOWN) =						0
						E(X) =	65.3286
						V(X) =	9547.504
						VARn	1.1747
						MEANn=	3.5921
						VAR(Xn)=	9547.504
			MAXIMUM DAILY EFFLUENT LIMIT =				451.722
			AVERAGE MONTHLY EFFLUENT LIMIT =				215.936
			215.9362	226.0637037			
DMR DATE	Value	Lognormal		Descriptive Statistics			
8/1/2000	250	5.521461		*Column1*			
10/1/2000	24	3.178054					
1/1/2001	18	2.890372		Mean	3.592092		
3/1/2001	52	3.951244		Standard Error	0.185874		
4/1/2001	74	4.304065		Median	3.433467		
5/1/2001	28	3.332205		Mode	2.995732		
6/1/2001	20	2.995732		Standard Deviation	1.083824		
8/1/2001	49	3.89182		Sample Variance	1.174675		
9/1/2001	100	4.60517		Kurtosis	1.831907		
10/1/2001	110	4.70048		Skewness	0.734894		
11/1/2001	30	3.401197		Range	5.494432		
12/1/2001	15	2.70805		Minimum	1.098612		
1/1/2002	30	3.401197		Maximum	6.593045		
3/1/2002	20	2.995732		Sum	122.1311		
5/1/2002	730	6.593045		Count	34		
6/1/2002	96	4.564348		Confidence Level(95.0%)	0.378164		
11/1/2002	50	3.912023					
12/1/2002	3	1.098612					
3/1/2003	28	3.332205					
10/1/2003	6	1.791759					
11/1/2003	13	2.564949					
12/1/2003	17	2.833213					
1/1/2004	35	3.555348					
2/1/2004	37	3.610918					
3/1/2004	48	3.871201					
4/1/2004	34	3.526361					
5/1/2004	52	3.951244					
8/1/2004	470	6.152733					
9/1/2004	32	3.465736					
10/1/2004	34	3.526361					
11/1/2004	29	3.367296					
12/1/2004	17	2.833213					
1/1/2005	20	2.995732					
2/1/2005	15	2.70805					

TSD Calc 11							
Zinc Performance-Based Limit Calculations (Outfall #001)							
PERFORMANCE-BASED EFFLUENT LIMITS							
USE EXCEL TO PERFORM THE LOGNORMAL TRANSFORMATION							
AND CALCULATE THE TRANSFORMED MEAN AND VARIANCE							
				LOGNORMAL TRANSFORMED MEAN =			6.4118
			'LOGNORMAL TRANSFORMED VARIANCE =				0.4081
NUMBER OF SAMPLES/MONTH FOR COMPLIANCE MONITORING =							1
	AUTOCORRELATION FACTOR(ne)(USE 0 IF UNKNOWN) =						0
						E(X) =	746.8755
						V(X) =	281151.977
						VARn	0.4081
						MEANn=	6.4118
						VAR(Xn)=	281151.977
			MAXIMUM DAILY EFFLUENT LIMIT =				2691.387
			AVERAGE MONTHLY EFFLUENT LIMIT =				1741.931
			1741.931	1619.116433			

DMR DATE	Value	Lognormal		Descriptive Statistics			
8/1/2000	2900	7.972466		*Column1*			
10/1/2000	1300	7.17012					
1/1/2001	760	6.633318		Mean	6.411829		
3/1/2001	1500	7.31322		Standard Error	0.109563		
4/1/2001	1500	7.31322		Median	6.248998		
5/1/2001	660	6.49224		Mode	7.31322		
6/1/2001	700	6.55108		Standard Deviation	0.638858		
8/1/2001	860	6.756932		Sample Variance	0.408139		
9/1/2001	1900	7.549609		Kurtosis	0.780928		
10/1/2001	650	6.476972		Skewness	1.118928		
11/1/2001	510	6.234411		Range	2.472484		
12/1/2001	310	5.736572		Minimum	5.598422		
1/1/2002	520	6.253829		Maximum	8.070906		
3/1/2002	440	6.086775		Sum	218.0022		
5/1/2002	780	6.659294		Count	34		
6/1/2002	515	6.244167		Confidence Level(95.0%)	0.222908		
11/1/2002	540	6.291569					
12/1/2002	310	5.736572					
3/1/2003	350	5.857933					
10/1/2003	270	5.598422					
11/1/2003	300	5.703782					
12/1/2003	300	5.703782					
1/1/2004	460	6.131226					
2/1/2004	700	6.55108					
3/1/2004	510	6.234411					
4/1/2004	430	6.063785					
5/1/2004	400	5.991465					
8/1/2004	3200	8.070906					
9/1/2004	360	5.886104					
10/1/2004	560	6.327937					
11/1/2004	390	5.966147					
12/1/2004	320	5.768321					
1/1/2005	450	6.109248					
2/1/2005	710	6.565265					

TSD Calc11. Copper and Zinc Marine Water Quality Criteria.

This spreadsheet is split so that you can copy substances of interest into the top portion of the spreadsheet and obtain a printout of just the pollutants of interest.
Updated the formulas and values to match with WAC 173-201A in December of 1992. Enter the hardness value for the receiving water for hardness dependent metals in B200 and TSS values in B199.
Spreadsheet updated with human health criteria by Gary Bailey in March 1995 and checked by G. Shervey
Metal criteria changed to those announced in FR Vol. 60 No.86 5/4/95 (10/95)
Metal translators added 6/96 (based on work by Pelletier and FR Vol 60, No.86 5/4/95)
Criteria values updated 9/03

WATER QUALITY CRITERIA (in ug/L unless otherwise noted)

	PRIOR	CAR	Water Quality Criteria		Human Health Criteria	Organoleptic	Metals Translators	
	ITY	CIN	Marine			Effects	Marine	
Pollutant, CAS No. & NPDES Application Ref. No.	PLTNT?	GEN?	acute	chronic	Marine		Acute	Chronic
COPPER - 744058 6M Hardness dependent	Y	N	4.80	3.10		1000.00	0.83	0.83
ZINC- 7440666 13M hardness dependent	Y	N	90.00	81.00		5000.00	0.946	0.946

TSD Calc11. Copper and Zinc Reasonable Potential to Exceed Marine Water Quality Criteria Calculations for Outfalls #002 and #003.

This spreadsheet calculates the reasonable potential to exceed state water quality standards for a small number of samples.
The procedure and calculations are done per the procedure in Technical Support Document for Water Quality-based Toxics Control, U.S. EPA, March, 1991 (EPA/505/2-90-001) on page 56. User input columns are shown with red headings.
Corrected formulas in col G and H on 5/98 (GB)

CALCULATIONS

				State Water Quality Standard		Max concentration at edge of...													
	Metal Criteria Translator as decimal	Metal Criteria Translator as decimal	Ambient Concentration (metals as dissolved)	Acute	Chronic	Acute Mixing Zone	Chronic Mixing Zone	LIMIT REQ'D?	Effluent percentile value		Max effluent conc. measured (metals as total recoverable)	Coeff Variation		# of samples	Multiplier	Acute Dil'n Factor	Chronic Dil'n Factor	
Parameter	Acute	Chronic	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*			*Pn*	*ug/L*	*CV*	*s*	*n*				COMMENTS
Copper	0.830	0.830		4.80	3.10	0.74	0.74	NO	0.95	0.050	0.143	0.60	0.55	1	6.20	1	1	
Zinc	0.946	0.946		90.0	81.0	0.97	0.97	NO	0.95	0.050	0.165	0.60	0.55	1	6.20	1	1	

APPENDIX D--RESPONSE TO COMMENTS

FIRST PUBLIC COMMENT PERIOD RAN September 2, 2005 – October 2, 2005

The following comments were received September 21, 2005, from Amy Bates from Citizens for a Healthy Bay.

I. S-1 Discharge Limitations

a. Section A. Stormwater – Outfall 001: This section lists the effluent limitations for oil and grease, total copper, total zinc, and pH.

Comment: After reviewing the expired permit and the draft, it appears that the effluent limitations for stormwater outfall 001 have not changed. As it is our mission to protect and clean-up Commencement Bay, we encourage the continual progression of NPDES permits towards eliminating reliance upon the waterway as an avenue for waste disposal.

During the duration of the expired permit, Martinac incurred at least 51 violations of which at least 40 were exceedences of the effluent limitations for each of the parameters listed for outfall 001 (the others were for TSS). Although we are pleased that Martinac has agreed to bring its organization into compliance with the previous standards, we hope that Martinac will increase their efforts stay within the parameters set forth in the permit and that the WSDOE will be likewise increase their efforts to assist Martinac in reducing the potential for future violations.

b. Section B. Groundwater Enforcement Limitations and Early Warning Value – Groundwater Monitoring Wells #1, 2, and 3: This section describes the effluent limitations for total copper and total zinc.

Comment: We applaud the permit writer's introduction of groundwater limitations into this permit. By doing such, the permit writer demonstrates the intent to encourage progressive waterway stewardship in Commencement Bay. Too, the permit manager has accomplished this while recognizing and being sensitive to the specific challenges that Martinac must address.

c. Section C. Marine Launchway 1 and 2 limitations – Outfalls 002 and 003: This section addresses potential pollutants that result from the use of launchways 1 and 2.

Comment: I spoke with the permit writer regarding the limitations outlined for marine lauchways 1 and 2 and the parameters of oil and grease, total copper, total zinc, and pH. According to the permit writer, the average monthly limitations will not remain as they are listed in the draft, but will be further reduced. Currently, the following limitations apply (the proposed change as indicated by the permit writer is listed in the column designated "Change"):

Parameter	Average Monthly	[Change]
Oil & Grease	10	None
Total Copper (µg/L)	150	"10s"
Total Zinc (µg/L)	170	"10s"
pH (s.u.)	Daily 6.5 – 9.0	None

We agree that more stringent limitations must be placed upon the parameters identified. We understand, however that the final decision regarding the limitations is still pending.

II. S-2 Monitoring Requirements

a. Section A. Monitoring Schedule: This section details the monitoring schedule based upon parameters, sample points and types, and frequency.

Comment: The monitoring requirements of the draft permit are more clearly defined that was the case in the expired permit. Too, the permit writer has incorporated more stringent requirements as they pertain to monitoring.

III. S-11 Best Management Practices (BMPs) for Stormwater and In-Water Vessel Maintenance

a. Sections A thru Q: These sections describe BMPs.

Comment: We agree that the BMPs must be clearly defined in this permit. Further, we recognize and appreciate that the BMPs as listed on the draft permit appear to incorporate greater detail relative to the expired permit.

SECOND PUBLIC NOTICE RAN OCTOBER 17, 2005 – NOVEMBER 17, 2005

Comments received from Amy Bates from Citizens for a Healthy Bay. Comments were e-mailed to John Diamant on November 14, 2005.

Comment #1

Thank you for extending the public comment period due to changes that were made in the draft; we appreciate the opportunity to respond to the changes that were made prior to the issuance of the permit. Citizens for a Healthy Bay (CHB) is a non-profit organization that functions as an active voice for the Tacoma populace and residents within the Commencement Bay area by advocating for sustainable environmental stewardship in Commencement Bay, its surrounding habitat and waterways. Therefore, we appreciate the public comment process, and too, the opportunity to provide you with the sentiments of those within our scope.

It is our understanding that the proposed changes to the draft permit include removing the numeric values (discharge limitations) for launchways 1 and 2. According to the Department, the following applies:

"The Department finds that other similar shipyard facilities address incidental discharges via a rigorous best management practices (BMP) program. The Department has also determined that these incidental discharges cannot be classified as a point source discharges and little to none of the copper or zinc material from these incidental discharges would remain dispersed in the marine receiving water. Therefore sampling the marine water would not be representative of these discharges nor provide a reliable indicator of copper and zinc pollutants. As a result, the Department has decided to withdraw the numerical permit limitations for Marine Launchways 1 and 2. The Permittee is still expected to utilize all of the BMPs required in Special Condition S11 and to meet the State Sediment Management Standards and the State Surface Water Quality Standards."

Launchway 1 and 2 discharges enter the Thea Foss Waterway, which is a Superfund clean-up site. Therefore, every possible effort must be made by the WSDOE to prevent the recontamination of the Waterway. While other shipyards utilize BMPs to minimize the amounts of contaminants entering the waterway, we do not believe that the BMPs listed go far enough to protect the Thea Foss Waterway from recontamination. (We understand that as part of the clean up process, sediment monitoring will occur in and around the discharge location, although this monitoring will not be conducted by JM Martinac Shipbuilding Corporation.)

Due to the significance of the area, its historic problems, and the overwhelmingly expensive clean-up process, efforts must be implemented to the greatest extent practicable to ensure that recontamination does not reoccur. For this reason, we recommend that the WSDOE recalculate the units/values listed for Marine Launchways one and two, and reestablish numeric limitations.

Response 1

The Department has considered the recommendation by Citizens for a Healthy Bay (CHB) and has determined that numerical limits for Marine Launchways 1 and 2 are not appropriate nor would they be representative of the amount of pollutants entering the Waterway when the Launchways are used. The Permittee is required to comply with **more stringent** best management practices (BMPs). A review of the required BMPs described in Special Condition S11 in light of CHB's concerns has resulted in a revision to BMP number F. The revision to the BMP is shown as follows:

"Documentation requirements as listed below will be in effect for any in-water vessel maintenance operations or work done at Marine Launchways 1 or 2 of one hour or more in duration in any given day or any in-water coating or painting operation involving ½ gallon or more of paint or marine coating in any given day."

Furthermore, it is the burden of proof of the Permittee to show that Special Condition S9 - Sediment Monitoring is being met. If any of this work is already being scheduled to be done as part of the Thea Foss Superfund Cleanup, then the monitoring may not have to be done (upon approval of the Department). Likewise, the Permittee **is required** to conduct any portion of the work that is not being done as part of the Superfund Cleanup effort. The U.S. Environmental Protection Agency would be notified if there is an indication of recontamination in the sediments. The Department believes that this approach of addressing the issue would be more direct and effective and provides more complete coordination with the Cleanup and ensuring compliance with marine sediment standards.